

Work Order ID 144831

Tuesday, April 26, 2016 8:11:00 AM

144831

Page 1

Item ID: D3196-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bar

Start Date: 4/26/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 5/5/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: WLF Date: 16-4-26 Tooling: _____ Date: _____Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3196	Rev C

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut blank: (0.75" x 1.50") x 26.200" long Bar

6 0 mf
16/04/26

110

1.11

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

2.70

HAAS CNC vertical machine #1

1-Machine D3196-1 as per Folio FA339 and Dwg D31961 Identify as D3196-12-Debur

6 0 DAS
14
9-39
16/04/27

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.06

Quality Control

6 0 DAS
14
9-39
16/04/27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☐ Heat Treat ☐ Cut Too Short ☐ Mislabeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐							
OTHER :									

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
130						6			2/16-4-28
QC	Memo	0.12							
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									6 x of 11 16/6/10
HandFinish	Memo	0.66							
Hand Finishing									
145	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
150									
Powdercoat	Memo	0.24							
Powder Coating									
START TIME: _____	FINISH TIME: _____	OVEN TEMPERATURE: _____							

DAS
13
9-09

MAY 10 2016

Outsource

155
padding

Receive & Inspect

6x 8/16-05-12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Stop ***NR2***

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160	QC3- Inspect Part Finish	0.00							
160									
QC	Memo	0.06							DAS 38 9-89
Quality Control									MAY 12 2016
170	Identify as per dwg & Stock Location: <i>523</i>	0.00							
170									
Packaging	Memo	0.06							DAS 6 8-89
Packaging									MAY 12 2016
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.60							
Quality Control									MAY 12 2016

GA 2016 5 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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Picklist Print

Tuesday, April 26, 2016 8:11:00 AM

Page 1

Work Order ID: 144831

144831

Parent Item: D3196-1

D3196-1

Parent Item Name: Bar

Start Date: 4/26/2016

Required Date: 5/5/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev: A New Issue 05-11-08 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.750X01.50 0		Purchased	No			100	f	36.9905	2.183	13.78737			

M6061T6B0 750X01 500

**

6061-T6 Bar .750 X 1.50

Location

Loc Qty

Loc Code

MAT

36.9905

→ 134284

12

→ m131700

11.9905

m132876

1

m134377

12

4.6
9.2

on 16/04/26

DQA: _____ Date: _____



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Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition			
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		OTHER : ☐ _____					

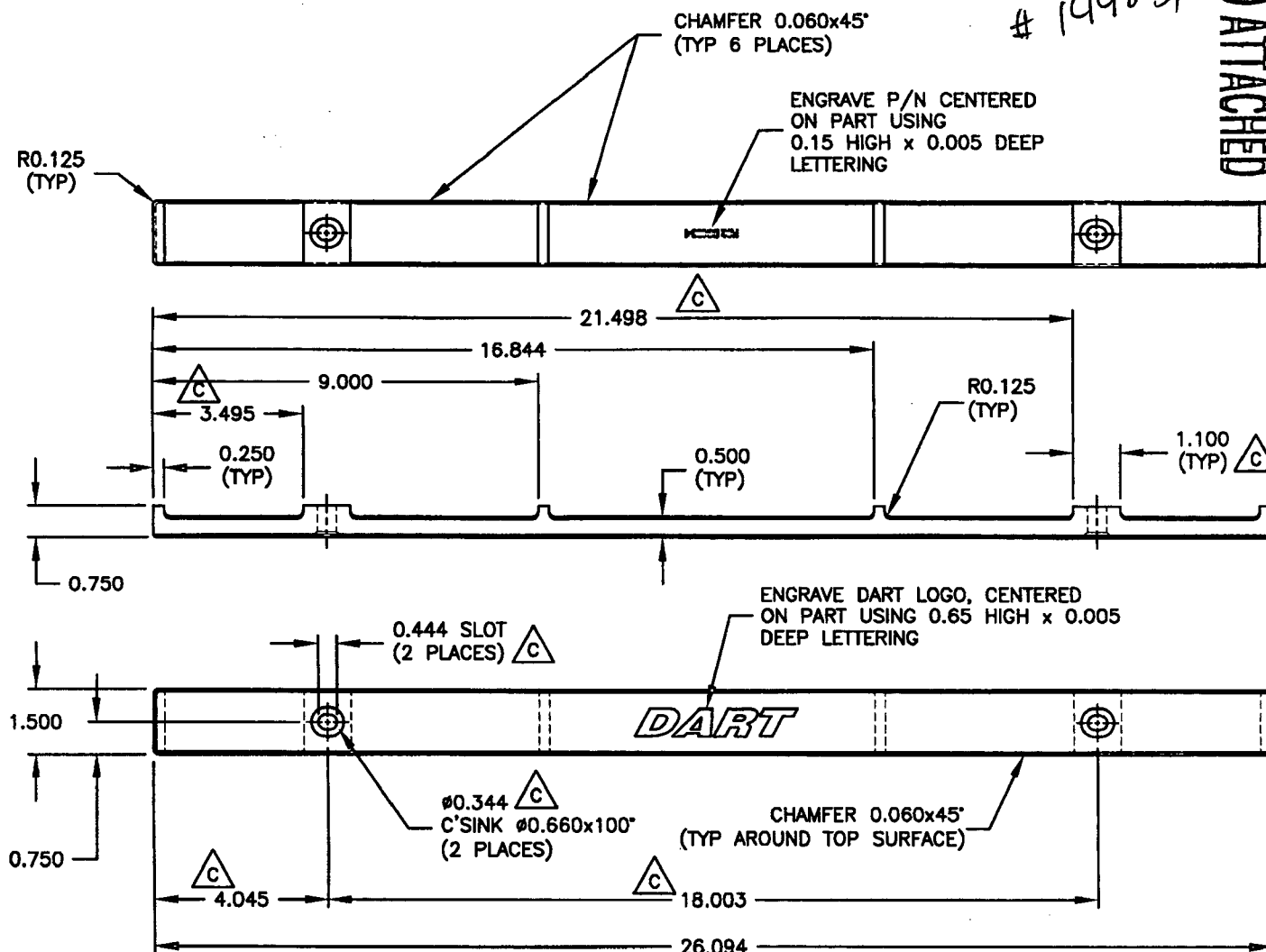


RELEASED

06.10.31

DEO ATTACHED

144831



D3192-1 BAR

- 1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8) (REF DART SPEC. M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED <i>PH</i>	APPROVED <i>PH</i>	HAWKESBURY, ONTARIO, CANADA
DATE 06.10.31	TITLE BAR	REV. C
A	03.06.25	NEW ISSUE
B	06.09.25	ADD D3196-5
C	06.10.31	ADD SLOTS ON -1; REMOVED -5
SHEET 1 OF 3		SCALE 1:4

DQA: _____ Date: _____

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DART AEROSPACE LTD		Work Order:	144831
Description: Bar		Part Number:	D3196-1
Inspection Dwg: D3196 Rev: C		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
26.094	+/-0.010	26.094	/		M-tape	
4.045	+/-0.010	4.045	/		Vern M-L-06	
18.003	+/-0.005	18.003	/		M-tape	
0.750	+/-0.005	.748	/		M-tape Vern M-L-06	
1.500	+/-0.010	1.503	/		"	
Ø0.344	+0.006/-0.001	Ø.348	/		"	
Ø0.660 x 100°	+0.008/-0.001 x 0.5°	Ø.660x100°	/		"	
0.060 x 45°	+/-0.010 x 0.5°	.050x45°	/		"	
0.750	+/-0.010	.751	/		"	
0.250	+/-0.010	.247	/		"	
3.495	+/-0.010	3.490	/		"	
9.000	+/-0.010	9.000	/		M-tape	
16.844	+/-0.010	16.844	/		"	
21.498	+/-0.010	21.500	/		"	
R0.125	+/-0.010	R.125	/		R-6	
1.1 00	+/-0.010	1.100	/		Vern M-L-06	
R0.125	+/-0.010	R.125	/		R-6	
0.444	+/-0.010	Ø.446	/		Vern M-L-06	

Measured by: 14		Audited by: Jh	Prototype Approval:	N/A
Date: 16/04/27		Date: 16-4-28	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue	KJ/RF	
B	06.10.24	Dwg Rev. updated	KJ/JLM	
C	07.03.21	Dimensions updated per Dwg rev. C	KJ/JLM	BE

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO32331**

Purchase Order Date 5/10/2016

PO Print Date 5/11/2016

Page Number 3 of 3

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

VENDOR'S TRUCK

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

7	144917	D3572-041 GUIDE	5/12/2016 Yes 5/12/2016	2.00	\$14.00	\$28.00
Powder coat per QSI005						

Line Total: \$28.00

8	144831	D3196-1 BAR	5/12/2016 Yes 5/12/2016	6.00	\$18.00	\$108.00
Powder coat per QSI005						

Line Total: \$108.00

9	144949	D3204-041 RELEASE PEDAL	5/12/2016 Yes 5/12/2016	1.00	\$20.00	\$20.00
Powder coat per QSI005						

Line Total: \$20.00

PO Total: \$605.50

PO Instructions: PROCUREMENT QUALITY CLAUSES
A000 CLAUSES NOT REQUIRED

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr:

2

Change Date:

5/11/2016

Generic Quote Calculator - quoted by: Roger L

Line	Part Number	Qty	Requirement 1	Unit Cost	Req 2	Unit Cost	Req 3
1	142768	14	powder coated	\$5.25		\$0.00	
2	142663	14	powder coated	\$9.00		\$0.00	
3	144623	12	powder coated	\$9.00		\$0.00	
4	144747	8	powder coated	\$9.00		\$0.00	
5	144749	10	powder coated	\$5.00		\$0.00	
6	143417	1	powder coated	\$20.00		\$0.00	
7	144917	2	powder coated	\$14.00		\$0.00	
8	144831	6	powder coated	\$18.00		\$0.00	
9	144949	1	powder coated	\$20.00		\$0.00	
10	Adminastration fee			\$125.00		\$0.00	
11						\$0.00	
12						\$0.00	
13						\$0.00	
14						\$0.00	
15				\$0.00		\$0.00	
16				\$0.00		\$0.00	
17				\$0.00		\$0.00	
18				\$0.00		\$0.00	
Repeat Job		☒ YES	☐ NO	Black Ano \$125	Color Ano \$150.00	Passivate	
Lot Charges		Paint \$185	Clear Ano \$125	Hard Ano \$175	Chem Film		
COMMENT		PO32331					
Pricing is based on lot charges when possible							
Anodize Pricing is based on how many parts can be processed per hour - when exceeding lot ch							
Painting Pricing is based on how many parts can be processed per hour - when exceeding lot ch							

8/6-05-12

Unit Cost	TOTAL COST
\$0.00	\$73.50
\$0.00	\$126.00
\$0.00	\$108.00
\$0.00	\$72.00
\$0.00	\$50.00
\$0.00	\$20.00
\$0.00	\$28.00
\$0.00	\$108.00
\$0.00	\$20.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
\$0.00	\$0.00
	\$605.50
\$115.00	
\$115.00	
arges	
arges	

6/6/512